

REMARKS

The Examiner requested a Sequence Listing for the Application in the September 6, 2006 communication despite Applicants' explanation of the nature of the consecutive amino acid alphabet letter symbols in the tables in the examples of the Application in Applicants' last reply. The Examiner relied on page 15, paragraph 1 and table 1 of the specification for the request.

Applicants thank Examiner Shibuya for the telephone interview on October 3, 2006 regarding the Sequence Listing request. In the interview, the Examiner particularly pointed out "the peptide chain" at page 15, lines 6-7, and inquired what "the peptide chain" is. The Examiner indicated his view that the consecutive amino acid alphabet letter symbols in the tables are "the peptide chain[s]."

Applicants explained that the specification as a whole and, particularly, the first sentence "[i]ndividual conjugates E, Y, Q, S & H (linked to lipid via a serine-glycine spacer) were prepared as ..." of the description of example 1 (the results of which are presented in the tables at pages 17 and 18) and the fact that the table at page 17 separately indicates the concentration of each conjugate group (for example, 40ul for each of E, Y, Q, S and H for EYQSH row) clearly indicate that the consecutive amino acid alphabet letter symbols in the left columns of the tables represent the kinds of the head group or terminal amino acids, not peptide chains of amino acid residues connected as the consecutive amino acid alphabet letter symbols appear.

Further, Applicants also pointed out that the similarity between the table style illustrations at pages 11 and 12 and the tables at page 17, and explained that the consecutive amino acid alphabet letter symbols in the tables at pages 17 and 18 (e.g. EYQSH, EQY, etc.) correspond to the probe names (e.g., Probe 1, Probe 2, etc.) of the illustrations.

Applicants agreed with the Examiner on putting the explanation set forth above in writing and explaining what the phrase "the peptide chain" in the first paragraph at page 15 in detail. Applicants proposed amending the consecutive amino acid alphabet letter symbols in tables at pages 17, 18, 20, 21, 23 and 26 to eliminate any confusion that may be caused by naming probes using the consecutive amino acid alphabet letter symbols corresponding to the kinds of head-group or terminal amino acid probes by inserting comma between each amino acid alphabet letter symbols in the probe names.

Applicants submit that reading of the phrase “the peptide chain” at page 5, lines 6-7 must take into consideration that the phrase is a part of the specification, and therefore, the phrase must be read in the entire context of the specification, not in vacuum. Applicants submit that the first sentence of the first paragraph at page 15 (which includes the phrase at issue here) clearly indicates that each of the amino acid alphabet letter symbols in the examples indicate the particular amino acid that occupies “the terminal position” of a peptide chain (“[i]n the examples given below, ... the standard ... representation of amino acids by single letters of the alphabet is employed, except that ... the letter refers to conjugates ... in which that particular amino acid occupies the terminal position in the peptide chain”). This terminal position is also referred to at page 11 while explaining the illustrations mentioned above (“each of the letters given represents a conjugate with a different terminal amino acid...”). See also page 9 (“[i]n a preferred simple embodiment, the present method uses conjugates having a single terminal amino acid linked via a spacer to a lipid tail group which can be combined simply by mixing in aqueous medium to form micelles in which different amino acid side chains would be presented together in a multiplicity of different configurations”).

Further, as explained above, the first sentence of example 1 clearly indicates that individual head group or terminal amino acid (i.e., each of E, Y, Q, S and H) is linked to a serine-glycine spacer (i.e., a peptide chain). See also the first sentence of example 3 and the third sentence of example 4. This description perfectly corresponds to the second sentence of the first paragraph at page 15 (“[i]n the examples described here, the lipid comprises two amino acids linked via a peptide bond, in which both of the amino acids are glycine analogues...”). Thus, Applicants submit that the individual head group listed in Example 1 is the terminal position of the peptide chain, i.e., the resulting peptide chain is “head group”-Ser-Gly. This peptide chain is a tripeptide which does not require a sequence listing. See also the last sentence above Example 1 on page 15. Thus, it is evident that the amino acids listed in the Tables simply represent the head groups and not a peptide.

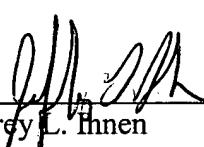
Further, the second sentence in the description of Example 1 (“[s]olutions of ...”) describes that each kind of the conjugates (in other words, E-head-group conjugate, Y-head-group conjugate, Q-head-group conjugate, S-head-group conjugate and H-head-group conjugate)

is mixed. See also page 11 ("each assembly consisting of selected conjugates mixed together..."). There is nothing that indicates a chemical synthesis reaction of a peptide bond between the head-group or terminal amino acids (i.e., E, Y, Q, S and H). Indeed, the combinatorial creation of an epitope via non-covalent association of conjugates indicates that there is no such covalent peptide bond formation between the head-groups or terminal amino acids.

Therefore, Applicants submit that it is reasonably clearly to one skilled in the art that the first paragraph at page 15 describes that each of single alphabet letter amino acid symbols in the tables in the examples represents a conjugate with that amino acid at a terminal position of a peptide chain, wherein the peptide chain can be a spacer peptide chain, and strictly requesting for an antecedent basis for the phrase "the peptide chain" based on the use of article "the" commits an error of separating the phrase from the context of the specification and reading it in vacuum. In addition, Applicants submit that the amendments in the tables in the examples eliminate any confusion as to the nature of the left columns in the tables.

In view of the foregoing, Applicants submit that the objection to the specification based on the Sequence Listing requirement is overcome, and the Application is now in condition for allowance. Early allowance of the application is respectfully requested. The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

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